

REMARKS

INTRODUCTION

In accordance with the foregoing, the abstract, specification, drawings and claims 1, 2, 4, 5, 7, 8, 10-14, 16, 17, 19 and 21-28 have been amended. Claims 3, 6, 9, 15, 18 and 20 have been cancelled. Claims 10 and 21 have been withdrawn. Claims 1, 2, 4, 5, 7, 8, 11-14, 16, 17, 19 and 22-28 are pending and under consideration.

AMENDMENT TO THE ABSTRACT

The abstract has been amended to improve the form of the abstract.

OBJECTION TO THE DRAWINGS

The Examiner noted that Figure 15 should be designated by a legend such as "Prior Art." The Examiner also objected to Figures 12A-12C because these drawings are connected by projection lines and contain centerlines.

Figures 12A-12C have been revised to remove the portion of the vertical line in Figures 12A-12C in between Figures 12A and 12B, and in between Figures 12B and 12C that was interpreted as a projection line. Regarding the horizontal lines in Figures 12A-12C, it is respectfully submitted that this is not a centerline but an axis defining a radius of curvature, contact ellipse and load distribution, respectively.

Figure 15 has been revised to add the legend "Prior Art."

Withdrawal of the foregoing objections is requested.

OBJECTION TO THE SPECIFICATION

The specification was objected to because of informalities. Appropriate correction has been made to the specification in accordance with the Examiner's suggestions.

Withdrawal of the foregoing objection is requested.

CLAIM OBJECTION

Claim 12 was objected to because of an informality. Appropriate correction has been made to claim 12 in accordance with the Examiner's suggestion.

Withdrawal of the foregoing objection is requested.

CLAIM REJECTIONS – 102 and 103

Claims 1-8, 11, 16, 17, 19 and 22-28 were rejected under 35 USC 102(a) as being anticipated by Mori (WO 2006/033320) (hereinafter "Mori").

Claims 1-6, 19 and 25-28 were rejected under 35 USC 102(a) as being anticipated by Tsujimoto (US 5,852,947) (hereinafter "Tsujimoto").

Claims 1-3, 5-7, 11, 16, 19 and 25-28 were rejected under 35 USC 102(b) as being anticipated by Bond (US 1,736,426) (hereinafter "Bond").

Claims 1, 5, 7, 11, 15 and 19 were rejected under 35 USC 102(b) as being anticipated by Wilkinson (GB 2 362 928) (hereinafter "Wilkinson").

Claims 8 and 17 were rejected under 35 USC 103(a) as being unpatentable over Wilkinson in view of Aizawa (JP 2000-320550) (hereinafter "Aizawa").

Claims 12 and 13 were rejected under 35 USC 103(a) as being unpatentable over Wilkinson in view of Nakagawa et al. (US 2005/0148425) (hereinafter "Nakagawa").

Claim 14 was rejected under 35 USC 103(a) as being unpatentable over Wilkinson in view of Takata (US 5,145,267) (hereinafter "Takata").

Claims 1-8 and 22-28

Amended claim 1 recites: "A double-row self-aligning roller bearing, which is used to support a main shaft of a window power generator having a blade rotor mounted on the main shaft, comprising: an inner race; an outer race; left and right rows of rollers arranged between the inner race and the outer race, in which left and right bearing portions accommodating the left and right roller rows have respective load carrying capacities different from each other, wherein one of the bearing portions that is arranged remote from the blade rotor has a load carrying capacity higher than that of the other of the bearing portions that is arranged close to the blade rotor, and each of the rollers of the row in the bearing portion arranged remote from the blade rotor has a length greater than that of each of the rollers of the row in the bearing portion arranged close to the blade rotor." Support for this amendment may be found in at least page 33, lines 12-16 of the specification.

Claim 1 was rejected as anticipated by Mori, Tsujimoto, Bond and Wilkinson.

Regarding Mori, it is respectfully submitted that Mori is not available as prior art under 35 USC 102(a) against the subject application. Specifically, the subject application claims the benefit of PCT International Application Number PCT/JP2004/016977 filed November 16, 2004,

which is before the effective date of Mori. To perfect the claim of priority, a verified English translation of PCT International Application Number PCT/JP2004/016977 filed November 16, 2004 is respectfully submitted herewith.

Regarding Tsujimoto, Bond and Wilkinson, none of these references discuss the technical feature of amended claim 1 of a double-row self-aligning roller bearing where one of the bearing portions that is arranged remote from the blade rotor has a load carrying capacity higher than that of the other of the bearing portions that is arranged close to the blade rotor, and each of the rollers of the row in the bearing portion arranged remote from the blade rotor has a length greater than that of each of the rollers of the row in the bearing portion arranged close to the blade rotor.

Specifically, regarding Tsujimoto, Tsujimoto discusses a main shaft gear mechanism in a transmission for a vehicle having a cage 4 with unequal pitched pockets 4a requiring alignment (See Tsujimoto, 6:1-6:10) and therefore clearly does not anticipate the double-row self-aligning roller bearing of claim 1.

Regarding Bond, Bond discusses a pump bearing that similar to Tsujimoto, is not self-aligning as the rollers 26 and 30 of Bond clearly do not share a common retainer. Accordingly, Bond also does not anticipate claim 1.

Regarding Wilkinson, Wilkinson does not discuss rollers having differing lengths. To the contrary, Wilkinson discusses that the rollers 13 are symmetrical.

This technical feature of claim 1 provides that during a calm condition, in which the blade rotor of the wind power generator stands still so that a large radial load acts on the bearing, because the rollers of the row positioned adjacent to the blade rotor have a length greater than the length of the major axis of the contact ellipse generated in the plane of contact between those rollers and the raceway member, the bearing can withstand the large radial load.

Claims 3 and 6 have been cancelled. Claims 1, 2, 4, 5, 7, 8 and 22-28 depend on claim 1 and are therefore believed to be allowable for at least the foregoing reason.

Withdrawal of the foregoing rejection is requested.

Claims 11-17

Amended claim 11 recites: "A double-row self-aligning roller bearing, which is used to support a main shaft of a wind power generator having a blade rotor mounted on the main shaft, comprising: an inner race, an outer race and double rows of rollers arranged between the inner race and the outer race, the bearing being in its entirety being divided into left and right split

bearing portions each comprising a split inner race, a split outer race and a single row of rollers, in which elements associated with a load or a life are differentiated between the left and right split bearing portions, wherein one of the bearing portions that is arranged remote from the blade rotor has a load carrying capacity higher than that of the other of the bearing portions that is arranged close to the blade rotor, and each of the rollers of the row in the bearing portion arranged remote from the blade rotor has a length greater than that of each of the rollers of the row in the bearing portion arranged close to the blade rotor.” Support for this amendment may be found in at least page 33, lines 12-16 of the specification.

Claim 11 was rejected as anticipated by Mori, Bond and Wilkinson.

Regarding Mori, it is respectfully submitted that Mori is not available as prior art under 35 USC 102(a) against the subject application.

Regarding Bond and Wilkinson, similar to the argument for claim 1, it is respectfully submitted that neither of these references anticipates the above-noted features of claim 11.

Claim 15 has been cancelled. Claims 12-14, 16 and 17 depend on claim 11 and are therefore believed to be allowable for at least the foregoing reason.

Withdrawal of the foregoing rejections is requested.

Claim 19

Amended claim 19 recites: “A double-row self-aligning roller bearing assembly, which is used to support a main shaft of a wind power generator having a blade rotor mounted on the main shaft, comprising: two single-row self-aligning roller bearings juxtaposed axially relative to each other, and in which an element associated with a load or a life is differentiated between the two roller bearings, wherein one of the roller bearings that is arranged remote from the blade rotor has a load carrying capacity higher than that of the other of the roller bearings that is arranged close to the blade rotor, and each of rollers of a row in the roller bearing arranged remote from the blade rotor has a length greater than that of each of rollers of the row in the roller bearing arranged close to the blade rotor.” Support for this amendment may be found in at least page 33, lines 12-16 of the specification.

Claim 19 was rejected as anticipated by Mori, Tsujimoto, Bond and Wilkinson.

Regarding Mori, it is respectfully submitted that Mori is not available as prior art under 35 USC 102(a) against the subject application.

Regarding Tsujimoto, Bond and Wilkinson, similar to the argument for claim 1, it is respectfully submitted that none of these references anticipates the above-noted features of claim 11.

Claim 15 has been cancelled. Claims 12-14, 16 and 17 depend on claim 11 and are therefore believed to be allowable for at least the foregoing reason.

Withdrawal of the foregoing rejections is requested.

CLAIM REJECTIONS – DOUBLE PATENTING

Claims 1-3, 7, 8, 19, 22-28 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 7-10 of co-pending U.S. Application No. 11/663,162.

It is respectfully requested that as the double patenting rejection is provisional, that the double patenting rejection be held in abeyance until the claims of the present application are otherwise in a condition for allowance.

WITHDRAWN CLAIMS

Rejoinder of withdrawn claims 10 and 21 is respectfully requested due to these claims dependence on an allowable base claim.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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